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## ABSTRACT

This study investigates the phenomenon of "Locative Inversion" in Cantonese. The term "Locative Inversion" indicates that the locative phrase (LP) syntactic process in Cantonese and the appears at the sentence-initial position and its logical subject occurs postverbally. It is demonstrated that this Locative Inversion is a widespread syntactic process in Cantonese and the sentence-initial LPs in the Locative Inversion are argued to be subjects that come from the postverbal complement position in the majority of cases. It is also possible to move a preverbal adjunct locative phrase to the subject position in the existential "yau" (have) sentences. This movement hypothesis is crucially dependent on the relative distribution and co-occurrence restrictions between the sentence-initial LPs and their coreferent proform "hai dou" (there). One important observation drawn from the SuperRaising analysis of the sentence-initial locative phrases is that "pro" in Chinese, albeit an A-specifier, will not block A-movement, unlike what is predicted by the theory of Relativized Minimality. (JL)

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## LOCATIVE INVERSION IN CANTONESE

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Sui-Sang Mok

**Abstract:** This paper proposes that locative inversion is a widespread syntactic process in Cantonese. The sentence-initial locative phrases in the Locative Inversion sentences are argued to be subjects which come from the postverbal complement position in the majority of cases; but it is also possible to move a preverbal adjunct locative phrase to the subject position in the existential "yau"(have) sentences. This movement hypothesis is crucially dependent on the relative distribution and co-occurrence restrictions between the sentence-initial locative phrases and their coreferent proform "hai dou"(there). One important observation drawn from the SuperRaising analysis of the sentence-initial locative phrases is that "pro" in Chinese, albeit an A-specifier, will not block A-movement, unlike what is predicted by the theory of Relativized Minimality.

### I. Introduction

This paper will investigate the phenomenon of Locative Inversion in Cantonese. By Locative Inversion, I mean that in a sentence, the locative phrase (henceforth, LP) appears at the sentence-initial position and its logical subject<sup>1</sup> occurs postverbally. The following are two typical examples.

- (1) (hai) chong seung min 'an jo go yan (hai dou)<sup>2</sup>  
at bed top/on lie ASP<sup>3</sup> CL person there

"There is a person lying on the bed."

- (2) (hai) cheung seung min gwaa jo fuk waa (hai dou)  
at wall top/on hang ASP CL picture there

"There is a picture hanging on the wall."

The interesting things about these sentences are that (i) the locative phrases can be prepositional phrases headed by the preposition "hai"(at/in/on/from) and (ii) some kind of proform "hai dou"(there) can coexist with the LPs although it must occupy a postverbal position in this case.

The first part of the paper will try to establish the D-structure for sentences like (1) and (2), which are confirmed to be ergative (unaccusative) in nature. The prepositional LPs in the D-structure are claimed to be postverbal complements and they move to the subject position at S-structure. The proform behaves like some kind of resumptive pronoun and is coreferent to the sentence-initial LPs in the S-structure. However, Locative Inversion sentences like (2), which consist of verbs such as "lini"(paste), "gwaa"(hang) and "jong"(install), may also have an accusative reading. In this second interpretation, (2) will have a D-structure where the subject position is occupied by a "pro" instead. The prepositional LP in this context is also hypothesized to originate in the postverbal complement position but it may only undergo movements like preposing and topicalization; hence it will not be a subject in the S-structure.

The proposal of Locative Inversion will entail a different conception of  $\theta$ -role- and Case- assignment in Cantonese from that of Mandarin as described by Li (1990). Because of this, section V of Part 1 will be devoted to briefly comparing the systems of  $\theta$ -role- and Case- assignment in Cantonese and Mandarin. I posit that Cantonese should be regarded as SVO both at D-structure and S-structure, and prepositional phrases in Cantonese can be Case-marked.

Part 2 will, in the first place, give further justification to the argumental status of the LPs in (1) and (2) when they appear in the D-structure. I will compare the extraction behaviour of the LPs with that of duration expressions which are adjunct-like. The comparison is based on Rizzi's(1990) theory of Relativized Minimality which pays particular attention to the asymmetry of arguments and adjuncts with respect to their extraction behaviour. Second, the subjecthood of the sentence-initial LPs in (1-10) is reinforced as they are shown to participate in SuperRaising. One important observation drawn from the analysis of SuperRaising is that "pro" in Chinese, albeit an A-specifier, will not block A-movement, unlike what is predicted by the theory of Relativized Minimality. Third, the movement analysis in Part 1 is extended to the type of existential "yau"(have) sentences that begin with a LP. These sentences are also claimed to have undergone locative inversion and the sentence-initial LPs may come from the postverbal complement position or the preverbal adjunct position. This claim is comparable to Freeze's(1991) crosslinguistic analysis of "have"-structures as locative sentences, but differs widely from Huang's(1987,1989) analysis of those existential "you"(have) sentences in Mandarin that begin with a LP. The last section concludes with a summary of the important generalizations that have been made in this investigation.

## II. Theoretical Framework

The general framework of Government and Binding will be employed for the analysis in this paper. Particular reference will be given to the X-bar theory,  $\theta$ -theory,

Case theory, the Extended Projection Principle and the theory of Relativized Minimality.

### III. Prepositional Locative Phrase as Subject

In this section, I will first establish that the prepositional LPs of the following sentences are subjects in the S-structures.

- (3) (hai) che leui min cho mun saai di hok saang (hai dou)  
 at car inside sit full all those student there  
 "The car was sat full by the students."
- (4) (hai) uk leui min jyu jo saam go feileutban yan (hai dou)  
 at house inside live ASP three CL Philippine people there  
 "There are three Philipinos living inside the house."
- (5) (hai) kiu haa min kei jo hou do yan (hai dou)  
 at bridge under stand ASP many people there  
 "Many people are standing under the bridge."
- (6) (hai) baan gung sat leui min lei mai<sup>4</sup> jo go chat lou (hai dou)  
 at office inside hide ASP CL thief there  
 "A thief is hiding inside the office."
- (7) (hai) mun hau min lim mun saai di gung jai (hai dou)  
 at door back-side paste full all those pictures there  
 "All the backside of the door was pasted with those pictures."
- (8) (hai) hak baan seung min se jo di ying man ji (hai dou)  
 at blackboard top/on write ASP some English word there  
 "Some English words have been written on the blackboard."
- (9) (hai) fa yun cheut min jong jo yi sap jan dang (hai dou)  
 at garden outside install ASP twenty CL lamp there  
 "There are twenty lamps installed outside in the garden."
- (10) (hai) toi seung min baai mun saai faa (hai dou)  
 at table top/on put full all flower there  
 "The whole table is occupied with flowers."

Before embarking on the analysis, I would like to make clear the categorial status of the beginning word "hai"(at/in/on/from) in sentences (1-10). The LPs of these sentences can appear between the subject and the VP in other contexts such as the one in

(11).

- (11) Ah Wong    hai    chong    seung min    tai    syu  
                  at    bed    top/on    read    book

"Ah Wong is reading on the bed."

Since the LP in (11) is in a non-Case position, the noun phrase "chong seung min"(bed-on) is most likely assigned Case by "hai", which is obligatory for the NP. As the LP is not a VP, "hai" must be a preposition, since only verbs and prepositions can assign Case.

In the study of locative inversion in English, which is regarded as some kind of stylistic rule, the sentence-initial prepositional LP is often conceived as a topicalized element (cf. Bower(1976), Coopmans(1989), Rochemont & Culicover(1990)). Xu and Langendoen (1985:5) also regard the sentence-initial LP in sentence (12) in Mandarin to be a topic.

- (12) zhouzi    shang    yau    shu;    chuang    shang    bu    hui    yau    shu  
       table    on    have    book    bed    on    not    can    have    book

"On the table there are some books; on the bed there cannot be any books."

(Xu & Langendoen's (21))

There are apparently some signs that the LPs in sentences (1-10) may be considered as topics. Those phrases, with or without the preposition, must be definite in nature. Furthermore, pauses, which some people consider to be diagnostics for topics (although imprecise), may be inserted after the LPs. But these pieces of evidence are by no means conclusive. In fact deeper investigation suggests otherwise.

At least three pieces of evidence can be adduced to show that the sentence-initial LPs in (1-10) display syntactic characteristics that are absent in genuine topics like the ones in (13) and (14).

- (13) go    tiu    yu    (a),    Ah Chan    kam yat    hai    Aberdeen    maai    ge  
       that    CL    fish    PART                   yesterday    at                   buy    PART

"That fish, Ah Chan bought it at Aberdeen yesterday."

- (14) go    gaa    che    (a),    Lou Li    gam jiu    jing    hou    jo  
       that    CL    car    PART                   this morning    fix    good    AS?

"That car, Lou Li fixed it this morning."

The first piece of evidence is related to the relative order between sentence adjuncts<sup>5</sup> and topics. In Cantonese, sentence adjuncts such as adverbials like "hou m hou

coi" (unfortunately), "hou ho neng"(possibly) and "hou ho sik"(sadly) cannot precede a topic.

(15)*	{	hou ho neng	}	gaa	che,	Ah Chan	gam jiu
		possibly		CL	car		this morning
		hou ho sik		jung mei	jing	hou	
		sadly		not yet	jing	hou	
		hou m hou choi					
		unfortunately					

"Possibly/sadly/unfortunately, Ah Chan has not fixed the car this morning."

However, when the adverbials are put before the initial LPs in sentences (1-10), they are still well-formed. Using (4) as an example, we can construct the following sentence.

(16)	{	hou ho neng	}	(hai)	uk	leui min	jyu	jo
		possibly		at	house	inside	live	ASP
		hou ho sik		saam	rgo	feileutban	yan	(hai dou)
		sadly		three	CL	Philippine	people	there
		hou m hou choi						
		unfortunately						

"Possibly/sadly/unfortunately, there are three Philipinos living inside the house."

The second piece of evidence comes from the constraint in using correlative conjunctions. Sentences with topics always become ill-formed if they are structured with correlative conjunctions like "m jing ji...jung yau" (not only...but also).

(17)	<u>*m jing ji</u>	gaa	che,	Ah Chan	jing	waai	jo,
	not only	CL	car		fix	bad	ASP
	<u>jung yau</u>	go	cheung,	keui	sai lou	daa	laan jo
	but also	CL	window	he	brother	hit	broken ASP

"\*Not only did that car, Ah Chan ruin, but also that window, his brother broke."

(18)	<u>*?go</u>	sai lou jai	<u>m jing ji</u>	Ah Chan	jung yi,
	CL	child	not only		like
	<u>jung yau</u>	keui	taai taai	dou	hei fun (keui)
	but also	he	wife	also	like (he)

"\*The child, not only does Ah Chan like, but also his wife likes."

The normal ways of expressing similar ideas in (17) and (18) do not involve topicalization and their well-formed counterparts should appear as

- (19) m jing ji Ah Chan jing waai gaa che,  
 not only fix bad CL car  
jung yau keui sai lou daa laan jo go cheung  
 but also he brother hit broken ASP Cl window

- (20) m jing ji Ah Chan jung yi go sai lou jai,  
 not only like CL child  
jung yau keui taai taai dou hei fun (keui)  
 but also he wife also like (he)

In contrast, there are no problems in applying correlative conjunctions to sentences containing sentence-initial LPs.

- (21) m jing ji (hai) cheung seung min gwaa jo fuk waa (hai dou)  
 not only at wall top/on hang ASP CL picture there  
jung yau (hai) tin faa baan seung min dou lim jo hoi bou (hai dou)  
 but also at ceiling top/on also paste ASP poster there

"Not only is there a picture hanging on the wall, but some posters are also pasted on the ceiling."

- (22) (hai) cheung seung min m jing ji gwaa jo fuk seung,  
 at wall top/on not only hang ASP CL picture  
jung yau lim jo di hoi bou (hai dou)  
 but also paste ASP some poster there

"On the wall, a picture is hung and some posters are pasted."

The third piece of evidence is related to the idea that an ordinary topic usually cannot appear immediately after a subordinate clause. This is exemplified by (23) and (24).

- (23) \*?kam maan sik jo fan ji hau,  
 last night eat ASP rice after  
gaa che, Ah Chan jin, hou jo  
 CL car, fix good ASP

"\*Last night after eating dinner, that car, Ah Chan fixed it."

- (24) \*?yu go Mary m lei, gaa che,  
 if not come CL car  
 Ah Chan wui jing waai keui  
 will fix bad it

"\*If Mary does not come, that car, Ah Chan will ruin it."

Their well-formed counterparts should involve no topicalization, as shown in (25) and (26).

- (25) kam maan sik jo faan ji hau, Ah Chan jing hou jo gaa che  
last night eat ASP rice after fix good ASP CL car

"Last night after eating dinner, Ah Chan fixed the car."

- (26) yu go Mary m lei, Ah Chan wui jing waii gaa che  
if not come will fix bad CL car

"If Mary does not come, Ah Chan will ruin the car."

Contrary to ordinary topics, sentences with initial LPs can appear in similar contexts and are well-formed.

- (27) kam maan sik jo faan ji hau, (hai) cheung seung min  
last night eat ASP rice after at wall top/on  
yi ging gwaa jo sap fuk waa (hai dou)  
already hang ASP ten CL picture there

"Last night after eating dinner, ten pictures had been hung on the wall."

- (28) yu go Mary m lei, (hai) tin faa baan seung min m  
if not come at ceiling top/on not  
wui jong yi sap jan dang (hai dou)  
will install twenty CL lamp there

"If Mary does not come, twenty lamps will not be installed on the ceiling there."

The above three tests confirm that the sentence-initial LPs cannot be genuine topics. I will now proceed to show that the sentence-initial LPs in (1-10) are subjects. For this purpose, I will argue that they are not adjoined to VP and they must precede INFL. The sentence-initial LPs can precede sentence adverbials and negation markers which are usually regarded as adjuncts to VP or preceding VP since they modify the scope of a VP. (29) and (30) are two examples.

- (29) (hai) chong seung min si si fan jo go yan (hai dou)  
at bed top/on always lie ASP CL man there

"There is a man always lying on the bed."

- (30) (hai) chong seung min mou yan fan (hai dou)  
at bed top/on no man lie there

"There is no man lying on the bed."



Some linguists like Zhou (1990:171) consider the adverbial "zongshi"(always) in Mandarin to be adjoined to I'. If I adopt this treatment, it will certainly help to ascertain that the LPs in (1-10) are linked to the [SPEC, IP].

Another supporting fact is that sentence-initial LPs can precede auxiliary verbs which are under the INFL node.

- (31) (hai) chong seung min (dou) ho yi fan leung go  
 at bed top/on also can/may lie two CL  
 sai lou jai (hai dou)  
 child there

"The bed can also allow two children to lie on."

- (32) (hai) cheung seung min (dou) wui gwaa leung fuk  
 at wall top/on also will hang two CL  
 waa (hai dou)  
 picture there

"Two pictures will also be hung on the wall."

There are now only two possible structural positions left for the sentence-initial LPs to attach themselves to---the I' adjunction and the [SPEC, IP]. Since the LPs are obligatory elements, as witnessed in (33), their adjunction to I' is not possible because it is an optional position.<sup>6</sup>

- (33) "gwaa jo fuk waa (hai dou)  
 hang ASP CL picture there

(This is possible only if "hai dou" means "here".)

So the only position that the sentence-initial LPs can occupy in S-structure is the [SPEC, IP], the subject position.

The claim that the sentence-initial LPs are subjects is clearly supported by the fact that these LPs can undergo subject-to-subject raising (cf. Hou(1977), Li (1990)). The LPs can either precede or follow raising predicates like "hou chi"(likely/seem) and "hou ho neng"(possible),<sup>7</sup> suggesting that there is a raising operation involved.

- (34) { hou chi } (hai) chong seung min fan jo  
       { likely/seem } at bed top/on lie ASP  
       { hou ho neng } go yan (hai dou)  
       { possible } CL people there

"It is likely/possible that a person is lying on the bed."

- (35) (hai) chong seung min { hou chi } fan jo go yan  
                                           { likely/seem } lie ASP Cl people  
                                           { hou ho neng } (hai dou)  
                                           { possibly } there

After all these tests, we can safely assume that the sentence-initial LPs in (1-10) are subjects.

#### IV. The D-Structure of Locative Inversion Sentences

In this section, I will first show that the verbs in the Locative Inversion sentences in (1-10) are unaccusative in nature. Then I will argue that the sentence-initial LPs originate in the postverbal complement position in D-structure and they move to the subject position at S-structure via a movement rule.

##### A. Locative Inversion Sentences Are Ergative Constructions

Perlmutter's Unaccusative Hypothesis (1978) distinguishes the unaccusative (ergative) verbs from the unergative (intransitive) verbs. The unaccusative verbs take a single argument which is base-generated in the structural object position at D-Structure and which bears either a theme or a patient role. On the contrary, the unergative verb takes an argument which occupies the structural subject position both at D- and S-structure and which is agentive in nature. Based on this insight, Burzio (1986:29) defines ergative verbs in terms of their lack of external  $\theta$ -role.

- (36) [Ergative verbs] refer to verbs which are subcategorized for a direct object and which do not assign a subject  $\theta$ -role.

The verbs in the Locative Inversion sentences in Cantonese and Mandarin are usually verbs denoting presence, appearance and disappearance, which are similar to the inventory of ergative verbs discussed in Burzio (1986). Besides this superficial comparison, Zhou (1990:40-43) suggests two ergative diagnostics for Mandarin, the contrastive word orders and the reference of null objects. I will only adopt the first one for the analysis of Cantonese since the second one is problematic.

Sentences containing typical unergative(intransitive) and accusative (transitive) verbs do not allow postposition of the subject(see Huang(1987), Zhou(1990)). In contrast, in Locative Inversion sentences like (1-10), the "logical"(potential)<sup>8</sup> subject can occur postverbally, showing that the verbs are unaccusative in nature. (37a) and (38a), which consist of the verbs "cry" and "read", do not permit "subject postposition", as illustrated in (37b) and (38b). (39a) consists of the verb "fan"(lie) and "subject postposition"

is allowed, as shown in (39b).

- (37)a.   hou do   sai lou jai   hai   chong   seung min   haam  
          many   child       at   bed       top/on     cry

"There are many children crying on the bed."

- b.   \*(hai)   chong   seung min   haam   jo   hou do   sai lou jai   (hai dou)  
      at       bed       top/on     cry     ASP   many   child     there

- (38)a.   hou do   sai lou jai   hai   chong   seung min   tai   syu  
          many   child       at   bed       on         read   book

"Many children are reading on the bed."

- b.   \*(hai)   chong   seung min   tai   syu   hou do   sai lou jai  
      at       bed       top/on     read   book   many   child

- (39)a.   hou do   sai lou jai   fan   hai   chong   seung min  
          many   child       lie   at   bed       top/on

"There are many children lying on the bed."

- b.   (hai)   chong   seung min   fan   jo   hou do   sai lou jai   (hai dou)  
      at       bed       top/on     lie   ASP   many   child     there

That the verbs in sentences (1-10) are unaccusative in nature will, according to Burzio's hypothesis, predict that the argument, which bears the theme role and which is a "logical"(potential) subject, will occupy the object position in the D-Structure. Since there is no NP that bears the agent role, the external argument (the structural subject) position in the D-structure will be left empty.

The above prediction will automatically dismiss the possibility that sentence-initial LPs, which I have argued to be surface subjects, are base-generated in that position, as unaccusative verbs are defined by Burzio not to assign a subject  $\theta$ -role. There is, in reality, evidence to support that the LPs take up the structural subject position via movement from the postverbal position.

#### B. The Proform "hai dou"(there)---Evidence for Movement

The hypothesis that the prepositional LPs originate in the postverbal position is fully justified when we examine the distribution of the proform "hai dou" (there), which optionally appears at the end of all the sentences in (1-10). First of all, the proform cannot exist on its own except when it means exactly the same as the deictic adverb "here"

in English and the action related to it refers to the immediate presence.

- (40) { paa  
lie prostrate  
cho  
sit  
kei  
stand  
fan  
lie  
gwai  
kneel } hai dou  
here

But it cannot coocur with a prepositional LP under any circumstances.

- (41) (\*hai chong seung min) cho (\*hai chong seung min)  
at bed top/on sit at bed top/on
- hai dou (\*hai chong seung min)  
here at bed top/on

However, when "hai dou" means something like "there" in English, a prepositional LP will also be present simultaneously. But the distributions of the proform and the LP are constrained. They cannot be placed immediately next to each other, as shown in

- (42) hai chong seun min keui cho jo  
at bed top/on he sit ASP
- (\*hai chong seung min) hai dou (\*hai chong seung min)  
at bed top/on there at bed top/on

Furthermore, the LP must precede the proform.

- (43) (hai) kiu haa min kei jo go yan hai dou  
at bridge under stand ASP CL people there

"There is a man standing under the bridge."

- (44) (hai) ho leui min yau yan hai dou yau seui  
at river inside have people there swim

"There is a man swimming in the river."

The LP can occupy the position where the proform can appear, but the reverse is not possible.

- (45)    yau     yan     cho     jo     hai   chong   seung min  
          have   people   sit   ASP   at   bed   top/on

"There is a man sitting on the bed." (cf. (42))

- (46)    \*hai dou     cho     jo     go     yan  
          there     sit     ASP   CL   people

- (47)    yau             yan     hai   ho   leui min    yau seui  
          have         people   at   river   inside   swim

"There is a man swimming in the river." (cf. (44))

- (48)    \*yau     yan     hai dou    yau seui  
          have   people   there   swim

((46) and (48) is possible if "hai dou" means "here".)

The relative distribution of the prepositional LP and the proform "hai dou" (there) discussed above inevitably leads to the conclusion that the proform is used to fill up the gap after the LP is moved, thus behaving like a resumptive pronoun.

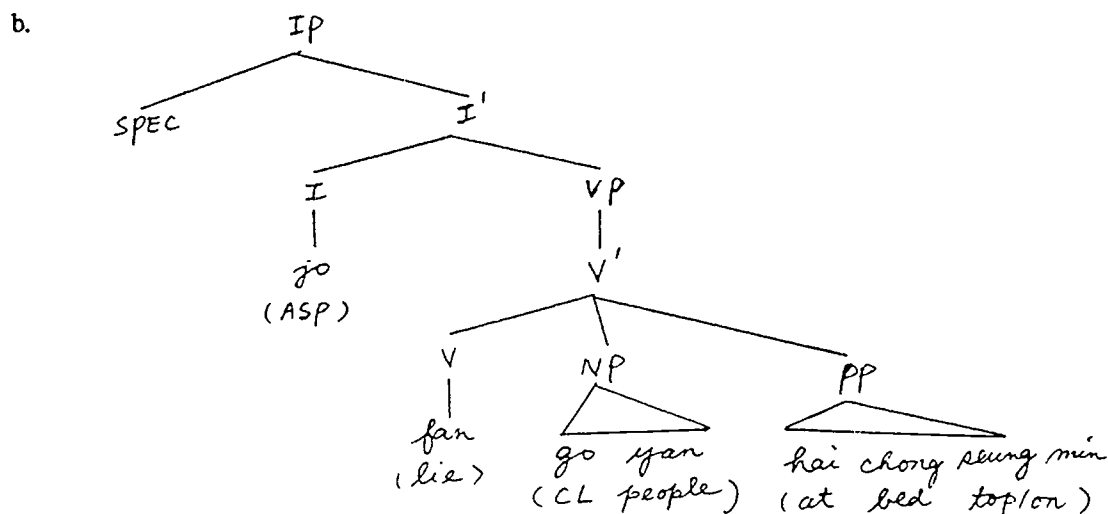
Turning back to the D-structure representation of the Locative Inversion sentences in (1-10), we can safely assume that the prepositional LPs are base-generated as sister to the right of the verb and the NP which bears the theme or patient role. This assumption is based on the analysis of the distribution of the proform "hai dou" (there) in the section above, together with the fact that the prepositional LPs receive a locative  $\theta$ -role from the verb. The argumental nature of the prepositional LP in D-structure is shown by the fact that it is obligatory in the following sentence.

- (49)    yau     go     yan     fan     jo     \*(hai   chong   seung min)  
          have   CL   people   lie   ASP   at   bed   top/on

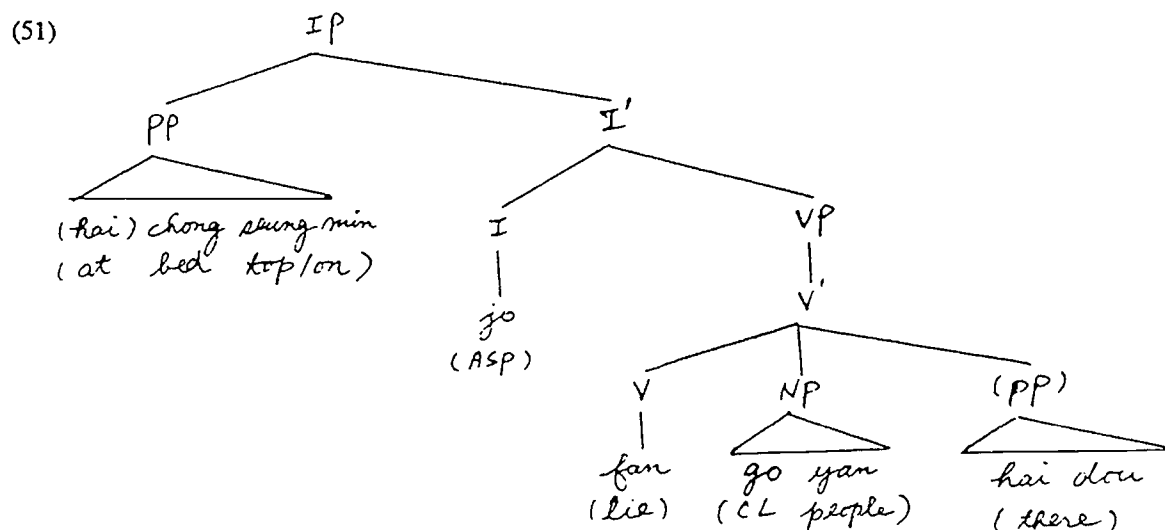
"There is a man lying on the bed." (cf. (1))

Furthermore, following Li(1990) and Zhou(1990), I assume that unaccusative verbs can assign Case to their NP complements.<sup>9</sup> The D-structure of sentence (1), (which is repeated here as (50a)), for example, will be (50b).

- (50)a. (hai) chong seung min fan jo go yan (hai dou)  
 at bed top/on lie ASP CL people there



That the subject position is empty at this stage provides a motivation for some kind of element to move in to satisfy the Extended Projection Principle (that sentences must have overt subjects). Theoretically, with a D-structure like (50b), there are two possibilities of movement, either moving the LP or the object NP. As the structure we are analyzing now is Locative Inversion, the LP therefore moves. As regards the possibility of moving the object NP, I will leave it for further research. (Note that on the previous page, I have already assumed that ergative verbs can assign inherent Case; the movement of the object NP to the [SPEC, IP] will make it doubly Case-marked). Applying the rule of move- $\alpha$ , the S-Structure of (1) will be



That the preposition "hai"(at/in/on/from) in the sentence-initial LPs of (1-10) may be null is due to the application of a late rule at PF.

The movement of the prepositional LP into the [SPEC, IP] is an A-movement. It basically abides by the properties of Substitution Movement as laid out in Chomsky(1986:4)--only a maximal projection can move to the specifier position. Besides, the proform "hai dou"(there) or the trace(when the proform is null) left behind after the movement is properly head-governed by the verb, thus satisfying the ECP(see discussion in Part 2).

But a question arises from the analysis above since the prepositional LP moves into a Case-marked position (i.e. [SPEC, IP]). Stowell's(1981:146) Case Resistance Principle (CRP) forbids PPs and clauses to receive Case because both of them bear Case-assigning features (Ps in PPs and [+tense] in clauses).

(52) The Case-Resistance Principle (CRP)

Case may not be assigned to a category bearing a Case-assigning feature.

(Stowell's (66))

But the CRP has suffered a lot of criticism. Firstly, Li(1990) argues that both finite and non-finite clauses in Mandarin Chinese can be assigned Case despite the fact that she still maintains the impossibility of assigning Case to PPs. Secondly, Fabb(1984) and Koopman(1984) both advocate that PPs can be assigned Case. Fabb suggests that the complement PP in English is assigned Prepositional Case "Cp" which will percolate down to the preposition. Koopman, in studying Vata(and Gbadi), comes up with the following generalisation.

(53) a. NPs and PPs must occur in Case positions

b. Case is assigned to the left in Vata. (Koopman's (26),p.115)

She also remarks that "PPs,.....would be some kind of disguised NPs which have to be Case-marked"(p.115). In fact, the prepositional LPs in Cantonese does behave like NPs in some contexts, which therefore enhances the plausibility of saying that they can be Case-marked. This piece of evidence is cited in section V.

### C. The D-structure of the Accusative Counterparts of Some Locative Inversion Sentences

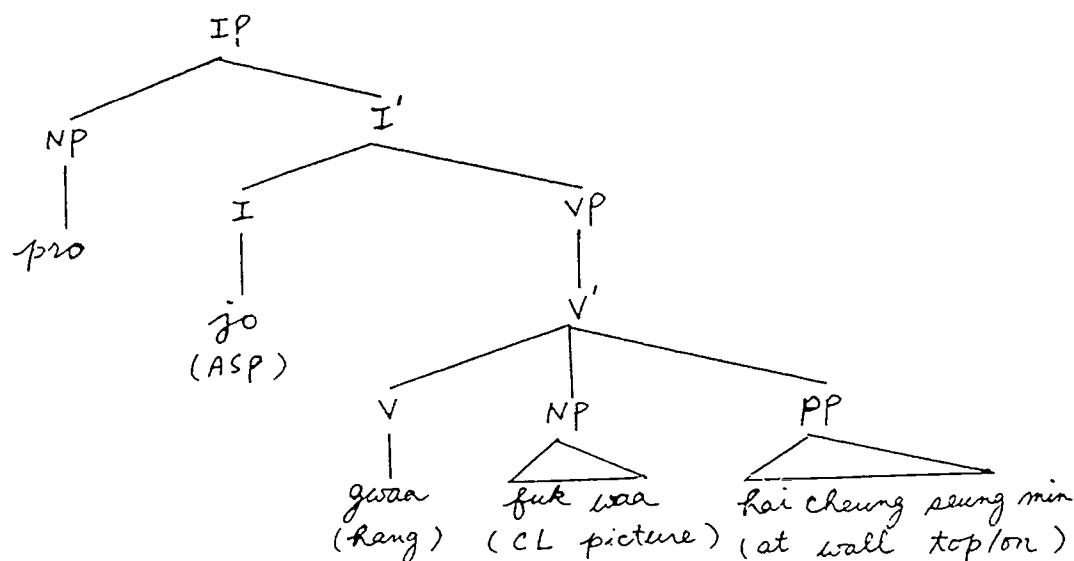
As mentioned in Section I, some of the Locative Inversion sentences like (2, 7-10) have accusative counterparts. In this case, the surface form of (2), which is repeated here as (54a), will be ambiguous between the unaccusative and the accusative reading. The

latter will be interpreted to have a D-structure like (54b).

- (54)a. (hai) cheung seung min gwaa jo fuk waa (hai dou)  
 at wall top/on hang ASP CL picture there

"There is a picture hanging on the wall."

b.



This is particularly obvious if sentence (2)(with slight modification) appears as part of a discourse and the agent is omitted to avoid repetition as it is mentioned previously. The following is an example.

- (55) A: nei sai lou hai cheung seung min gwaa jo  
 you brother at wall top/on hang ASP  
 keui ge waa hai dou  
 he POSS picture there

"Your brother has hung his picture on the wall."

nei wui hai bin dou gwaa nei fuk waa?  
 you will hai where hang you CL picture

"Where will you hang your picture?"

- B: dou wui hai cheung seung min gwaa  
 also will at wall top/on hang

"I will also hang my picture on the wall."

(or seriously:



ngo	<u>dou</u>	<u>wui</u>	hai	cheung	seung min	gwaa	ngo	fuk
I	also	will	at	wall	top/on	hang	I	CL
waa	(hai dou)							
picture	there							

"I will also hang my picture on the wall.")

Note that the adverb "dou"(also) and the auxiliary verbs "wui"(will), unlike the cases in (31-32) where they must follow the prepositional LPs, precede them in (55). This is evidence to show that the LPs in (55) are not the same as those in (1-10) and these LPs are in VP-adjoined(or topicalized) position(see further examples in (57)) rather than in the subject position. Since the proform "hai dou"(there) also exists, we can assume that, as the analysis above, the prepositional LPs originate in the postverbal complement position.

With the subject lexicalized (say Ah Chan), (54b) will result in a sentence like (56).

(56)	Ah Chan	gwaa	jo	fuk	waa	<u>hai</u>	<u>cheung</u>	<u>seung min</u>
		hang	ASP	CL	picture	at	wall	top/on

"Ah Chan hung a picture on the wall."

When the LP is preposed or topicalized, (56) becomes either (57a) or (57b).

(57)a.	Ah Chan	<u>hai</u>	<u>cheung</u>	<u>seung min</u>	gwaa	jo
		at	wall	top/on	hang	ASP
	fuk	waa	(hai dou)			
	CL	picture	there			
b	<u>hai</u>	<u>cheung</u>	<u>seung min</u>	Ah Chan	gwaa	jo
	at	wall	top/on		hang	ASP
	fuk	waa	(hai dou)			
	CL	picture	there			

#### V. Theoretical Interests of the Movement Analysis in Cantonese Locative Inversion: A Comparison of Cantonese and Mandarin

The claim that sentence-initial LPs in (1-10) originate in the postverbal complement position in D-structure suggests that the word order constraint in Cantonese may be very different from that of Mandarin as proposed by Li(1990). According to her, the Chinese [Mandarin] Word Order Constraint consists of the following principles.

- (58) a. Chinese is head-final except under the requirement of Case assignment.  
 b. Case is assigned from left to right in Chinese.  
 c. A Case assigner assigns at most one Case. (Li's (23), chapter 1, p.11))

This hypothesis predicts that only Case receivers occur immediately to the right of the head; otherwise, the head occurs finally. Since PPs are not subject to the Case Filter, they are not assigned Case and do not occur postverbally. If the analysis so far in this paper is correct, Cantonese will not be subject to the constraint that only Case receivers can occur postverbally because there are complement prepositional phrases following the verb.

As a matter of fact, Li's analysis of the apparent postverbal prepositional phrases in Mandarin cannot be applied to that in Cantonese. Li considers the postverbal locative PP in the following Mandarin sentence n.c. a real PP.

- (59) ta shui/tiao zai dishang  
 he sleep/jump at floor-surface

"He sleeps on/jumps to the floor." (Li's (37a), ch.3, p.59)

She proposes that the VP structure in (59) is  $[[_{\text{V}} \text{V P}] \text{NP}]$ , where P is reanalysed with V and forms a complex verb. Alternatively, the P may simply be a V, combining with the main verb to become a compound V:  $[[_{\text{V}} \text{V V}] \text{NP}]$ . Therefore, the sentence in (59) does not violate the word order constraint. There are simply no real PPs in postverbal position (p.59). The basic evidence she puts forward is that verbs like "shui"(sleep) and "tiao"(jump) form a unit with "zai"((be)at), as it is impossible to insert aspect markers between "shui/tiao" and "zai".

However, this is not what we find in the case of the postverbal PPs in Cantonese. Aspect markers can always be inserted between the verb and the PP, showing that no reanalysis has taken place. This can be seen from sentences (1,2,5,6,9).

In relation to the Chinese Word Order Constraint, Li also assumes that the  $\theta$ -positions and Case positions in Mandarin Chinese do not coincide.  $\theta$ -role assignment (at D-structure) is from right to left; Case-assignment (at S-structure) is from left to right. Based on these assumptions, Li (1990:11) claims that Mandarin Chinese is "head-final (SOV, postpositional, N-final) at D-structure and SVO, prepositional, N-final at S-structure". The proof that prepositional LPs in Cantonese can occur postverbally at D-structure (and S-structure) implies that  $\theta$ -role assignment in Cantonese is from left to right. Since the word order of Cantonese phrase structure is basically SIMPLE/COMPLEX MODIFIER-HEAD and HEAD-ARGUMENT, and if we consider the headness parameter a "lexical relationship between head and arguments"(cf.

Huang(1990),p.57), then Cantonese is similar to English in that Case-positions and  $\theta$ -positions coincide.

The proof that the prepositional LPs move from the postverbal non-Case position at D-structure to the Case-marked subject position at S-structure indicates that PPs in Cantonese can receive Case(in some situations). In this respect, Cantonese pairs off with English but diverges from Mandarin (using Li's account in (1990)) since English but not Mandarin also allows PPs to appear in Case positions. In English, for example, we can say "The mouse ran out from [under the bed]". That PPs in Cantonese can receive Case also predicts that PPs in this language may behave like lexical NPs in some ways since lexical NPs must be assigned Case. Indeed, the prediction is borne out because like NPs, PPs can occur in the prenominal modifier environment as in

$$(60) \left[ \begin{array}{c} \text{NP} \\ \text{PP} \end{array} \right] \left\{ \begin{array}{c} \emptyset \\ \text{ge} \\ \text{CL} \\ \text{DD} \end{array} \right\} \text{N}$$

where "ge" is a modifier marker, "CL" is a classifier and "DD" is a demonstrative determiner. In Cantonese, the following sentences containing PPs as prenominal modifiers are definitely well-formed.

- (61) keui hei fun hai cheung seung min (go) fuk waa  
he like at wall top/on that CL picture

"He likes that picture which is hanging on the wall."

- (62) keui yiu sou saai hai toi haa min ge lap sap  
he want sweep all at table under MOD rubbish

"He wants to sweep away all the rubbish that is under the table."

But according to Li, PPs in Mandarin can never occur in the environment of (60).

## VI. Summary of Part 1

Part 1 of this paper has given a preliminary sketch for the locative inversion phenomenon in Cantonese. It has succeeded in establishing the D-structure for the Locative Inversion sentences as in (1-10), and has come to the conclusion that movement is involved--the postverbal complement PP moves to fill the empty subject position. It also raises the issue that Cantonese PPs can be assigned Case in some situations, thus echoing the findings by Fabb and Koopman. Because of these findings and generalizations, the paper also proposes that the Cantonese word order is SVO both at D- and S-structure.

With the establishment of all these fundamental claims, I will, in Part 2, look into more complicated syntactic processes like extraction of arguments and adjuncts across wh-islands and SuperRaising that are related to the Locative Inversion sentences. Besides, I will also examine "yau"(have) existential sentences that begin with a LP.

## Part 2

### I. Further Evidence for the Argumental Status of the Sentence-initial LPs

In the first part of this paper, I have argued that the sentence-initial LPs in (1-10) originate in the postverbal complement position at D-structure. The arguments I have advanced are that the LPs receive a locative  $\theta$ -role from such verbs as "fan"(lie), "kei"(stand) and "gwaa"(hang) and these LPs are obligatory whether they are in the sentence-initial position as in (1-10) or in the postverbal position as in (49) or (56) of Part 1. This hypothesis is further justified, as we will see below, when we compare the LP's extraction behaviour with that of duration and frequency expressions which are adjunct-like(for the proof of the adjunct status of their Mandarin counterparts, see Tang(1990)). The comparison is based on Rizzi's(1990) theory of Relativized Minimality which helps to reveal the argumental status of the LPs.

The discussion in this section is in the following order. I will first outline the essential features of the principle of Relativized Minimality. Next I will show that besides the possibility of being an I'-adjunct, the negation marker "m" (not) in Cantonese can be the spec of VP, an A'-specifier. Then, I will contrast the extraction behaviour of the adjunct-like duration expressions with that of the postverbal LPs (in accusative sentences such as (56)) when a negation marker is present in the [SPEC,VP]. The extraction process that will be examined in this particular occasion is topicalization, an A'-movement. It is found that the topicalization of duration expressions will be blocked by the VP-specifier whereas that of the LP will not. Based on the Rizzi's theory, we can infer that postverbal "hai" LPs in Cantonese are arguments bearing a referential  $\theta$ -role(in Rizzi's sense). Since in the D-structure, the LPs in the Locative Inversion sentences have been shown to be the same type of entity as those in (56)(see Part 1,Section IV for discussion), they are no doubt arguments too. For this reason, in Locative Inversion sentences like (1-10), the movement of the LP from the postverbal complement position to the subject position ([SPEC of IP]) is an A movement. The theory of Relativized Minimality predicts that such kind of movement will not be blocked by A'-specifiers like the negation marker "m"(not) in the [SPEC,VP]. And indeed this is shown to be the case.

#### A. The Theory of Relativized Minimality

As Rizzi points out in the forward of his book *Relativized Minimality*, the study of the nature and properties of the locality condition is the central task of much current work in syntactic theory. There are essentially two different approaches in dealing with the issue of locality: the "barrier" approach and the "intervention" approach.

The "barrier" approach argues that certain structural boundaries count as barriers for syntactic processes. Suppose we have a configuration like (63).

$$(63) \quad \dots[\alpha \dots[\gamma \dots\beta \dots]\dots]\dots$$

$\alpha$ =maximal projection

$\gamma$ =barrier

The extraction of " $\beta$ " out of the configuration will make the related sentence ungrammatical because two barriers have been crossed and Subadjacency is violated. (The Subadjacency Condition may simply be defined as "movement must not cross more than one barrier"). (64) is an example of Subadjacency violation.

$$(64) \quad *What_i \text{ did } [_{TP} \text{ } [_{CP} \text{ that she disliked } t_i] [_{VP} \text{ surprise you}]]$$

The "intervention" approach assumes that a syntactic process cannot apply across an intervening element of a designated kind, which could in principle be involved in the process. The Minimality Condition in Chomsky(1986) serves as a good illustration of this approach. With reference to a configuration like (65), the Condition can be defined as (66).

$$(65) \quad \dots\alpha \dots[\gamma \dots\delta \dots\beta \dots]\dots \quad (\text{Chomsky 1986,p.42})$$

(66) Minimality Condition (broader definition)

$\gamma$  is a barrier for  $\beta$  if  $\gamma$  is an immediate projection

of  $\delta$ , a zero-level category distinct from  $\beta$ . (Sung(1990),p.21)

So in the configuration (65), assuming that " $\gamma$ " is the immediate projection of " $\delta$ ", " $\alpha$ " will fail to govern " $\beta$ " even in principle it could do so. To illustrate the Condition, we give the following example.

$$(67) \quad *Who_i \text{ does John think } [_{CP} \text{ } t'_i \text{ } [_{C'} \text{ that } [_{TP} \text{ } t_i \text{ can read}]]]$$

" $t'_i$ " fails to govern " $t_i$ " because of the intervening complementizer "that", which is the head of CP and whose immediate projection is C'--a barrier, thus an ECP violation results.

Rizzi's theory of Relativized Minimality intends to "maximize the role of intervention and correspondingly reduce the role of barriers in the definition of government". For this purpose, "barriers" are no longer the most crucial factor in determining government relations. The Minimality Condition of (66) is also excluded in Rizzi's theoretical account. The principle of Relativized Minimality is in essence employed to block "government of some kind across an element which could bear a government relation of the same kind" (Rizzi(1990), Forward).

In Rizzi's analysis, the  $\theta$ -government requirement of "proper government" in *Barriers* is dispensed and the ECP is reduced to (68).

(68) ECP: A nonpronominal empty category must be properly head-governed. (Rizzi, p. 89)

Head government is in turn defined as

- (69) Head Government: X head-governs Y iff
- (i)  $X \in \{A, NP, V, Agr, T\}$
  - (ii) X m-commands Y
  - (iii) no barrier intervenes
  - (iv) Relativized Minimality is respected. (Rizzi, p.6)

Furthermore, "properly-governed" means "governed by  $X^\circ$  within  $X''$ " (Rizzi, p. 31).

In addition, to explain the difference between an object and an adjunct in the effects they generate when moving across a wh-island, Rizzi proposes two ways to connect an operator (a wh-phrase or a topicalized element) and its variable(trace): binding and a chain of government relations.

- (70) "Binding requires identity of referential indices, a formal property now restricted by [the following principle: A referential index must be licensed by a referential  $\theta$ -role (Rizzi, p.86)]. When co-indexation and binding are not available, the chain of government relations is the only connecting device. But the government relations are intrinsically local." (Rizzi, p.92)

Let us elaborate some of the basic concepts mentioned in (70). Referential  $\theta$ -roles are argumental  $\theta$ -roles and they include "agent, theme, patient, experiencer, goal, etc" (Rizzi, p.86). There are also quasi-argumental or non-referential  $\theta$ -roles and they include "manner, measure, atmospheric-role and idiosyncratic role in idioms,

etc." (Rizzi, p.86). An object or an object wh-phrase is an element that is assigned a referential  $\theta$ -role which licences a referential index. So it can form a binding relation with its trace when it moves, and the binding dependency needs only satisfy head government (see the definition in (69)). In sum, a binding relation is defined as

- (71) X binds Y iff
- (i) X c-commands Y
  - (ii) X and Y have the same referential index. (Rizzi, p.87)

An example of binding relation is given in (72).

- (72) ??Who<sub>i</sub> do you wonder [ why [ John invited t<sub>i</sub> ] ]

As regards the chain of government relations, the ideas of "chain" and "antecedent-government" are most crucial. Rizzi (1990) defines a chain as

- (73)  $(a_1, \dots, a_n)$  is a chain only if, for  $1 \leq i < n$ ,  
 $a_i$  antecedent-governs  $a_{i+1}$  (p.92)

Antecedent-government is in turn defined as

- (74) X antecedent-governs Y iff
- (i) X and Y are non-distinct
  - (ii) X c-commands Y and
  - (iii) no barrier intervenes
  - (iv) Relativized Minimality is respected. (p.92)

Since an adjunct or an adjunct wh-phrase will not be assigned a referential  $\theta$ -role, and hence not a referential index, it cannot form a binding dependency. It must therefore form a chain with its trace when it moves, because (antecedent-)government is the only connecting device left. An example of (antecedent-) government relations is shown below.

- (75) How<sub>i</sub> do [you think [t'<sub>i</sub> [John will propose to Mary t<sub>i</sub> ] ]]

In (75), "t'<sub>i</sub>" antecedent-governs "t<sub>i</sub>" and "how<sub>i</sub>" in turn antecedent-governs "t'<sub>i</sub>".

From definitions (69) and (74), we see that both head-government and antecedent-government are constrained by the clause of Relativized Minimality and it is defined as

## (76) Relativized Minimality

X  $\alpha$ -governs Y only if there is no Z such that

(i) Z is a typical potential  $\alpha$ -governor for Y,

(ii) Z c-commands Y and does not c-command X. (Rizzi, p.7)

The variable notion of  $\alpha$ -government ranges over head-government and three different cases of antecedent-government (A-antecedent government, A'-antecedent government and X<sup>0</sup>-antecedent government). So the intuitive idea behind Relativized Minimality is that a particular kind of government is blocked by the intervention of an element which typically has the potential for government of that kind. The four subcases of typical potential governors are

a. Z is a typical potential head governor for Y = Z is a head  $\alpha$ -commanding Y.

b. Z is a typical potential antecedent governor for Y, Y in an A-chain =  
Z is an A specifier  $\alpha$ -commanding Y.

c. Z is a typical potential antecedent governor for Y, Y in an A'-chain =  
Z is an A' specifier  $\alpha$ -commanding Y.

d. Z is a typical potential antecedent governor for Y, Y in an X<sup>0</sup>-chain =  
Z is a head  $\alpha$ -commanding Y. (Rizzi, p.7)

These four cases generalize the idea that "typical potential governors of different kinds create impermeable domains for government" (p. 8).

According to Rizzi, the Relativized Minimality constraint accounts for not only wh-island violations with adjuncts but also violations with adjuncts in the case of inner and pseudo-opacity islands. These two islands are created by a negation and a floating quantifier respectively when they occupy the [SPEC, VP] position. In contrast to their effects on adjuncts, all the three kinds of islands mentioned here (which can be subsumed under the name of "wh-islands") do not produce a violation with arguments.

I will illustrate the working of Relativized Minimality by looking at how inner islands affect the extraction of arguments and adjuncts, since we will study similar problems in Cantonese later on. As can be seen, the movement of the two wh-phrases in (77) and (78) respectively generate two different results.

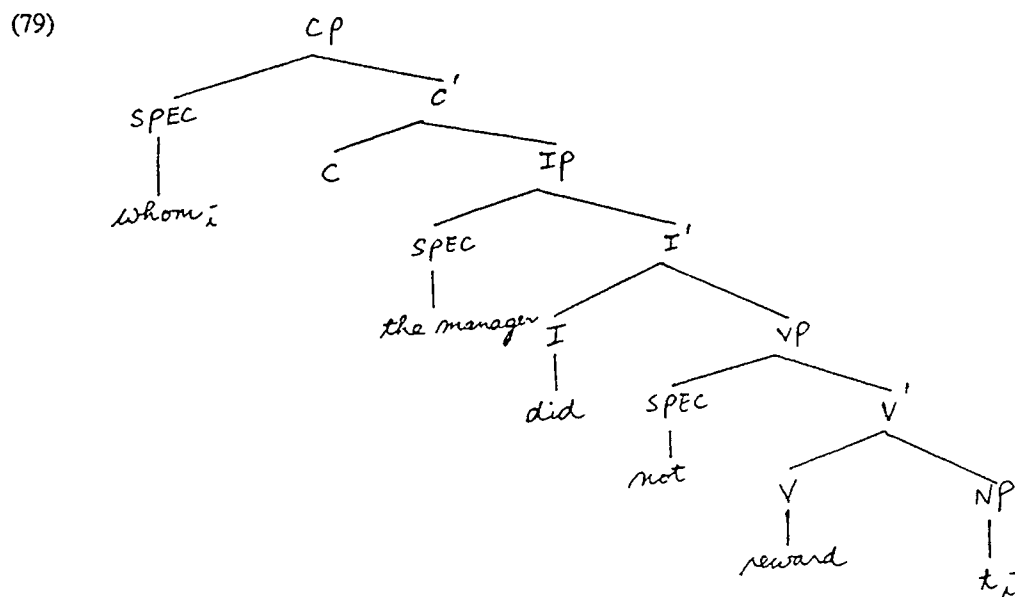
(77) Whom<sub>i</sub> didn't the manager reward t<sub>i</sub>

(78) \*How<sub>i</sub> didn't the manager reward the players t<sub>i</sub>

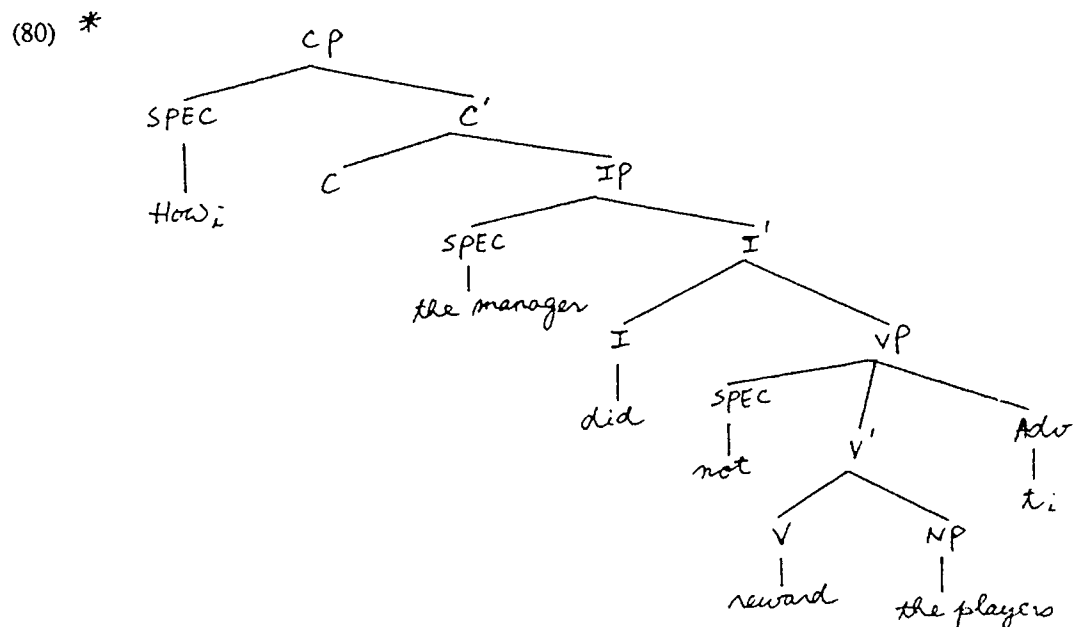
The relation between "whom<sub>i</sub>" and "t<sub>i</sub>" in (77) is a binding one since the "wh-phrase" is assigned a referential  $\theta$ -role which licences a referential index. What this dependency



needs to fulfil is only head-government and the trace is indeed properly head-governed by the verb as witnessed in (79). (V c-commands  $t_i$ , there is no barrier intervening and Relativized Minimality is respected.)



On the other hand, the relation between the adjunct and the trace in (78) cannot be "binding" since " $\text{how}_i$ " is not assigned a referential  $\theta$ -role and hence not a referential index. In this case, " $\text{how}_i$ " and " $t_i$ " can only be connected by a chain which must fulfill the condition of antecedent-government as defined in (74). Rizzi proposes that the negation in English is a spec of VP (an A'-specifier). So the structural representation of (78) is (80).



The movement of "how<sub>i</sub>" to the [SPEC, CP] is ruled out by Relativized Minimality because "how<sub>i</sub>" cannot antecedent-govern the trace due to the intervention of the A'-specifier "not" in the [SPEC, VP]. To generalize, Relativized Minimality predicts that the extraction of an argument across an wh-island is well-formed but that of an adjunct is ill-formed.

With an understanding of how Relativized Minimality works, I will go on to give further justification to the hypothesis that the sentence-initial LPs of the Locative Inversion Sentences(1-10) are postverbal complements (arguments) in the D-structure.

### B. The LPs as Arguments

The negation marker "m"(not) in Cantonese can either precede or follow an auxiliary verb like "ho yi"(can/may), "ying goi"(should) or "wui"(will), as illustrated in (81).

- (81)a. keui m ho yi maai ni di saam (aa)  
he not can buy these clothes PART

"He is not allowed to buy these clothes."

- b. keui ho yi m maai ni di saam (aa)  
he can not buy these clothes PART

"It is not necessary for him to buy these clothes."

We can safely assume that "m"(not) in (81a) is an I'-adjunct since it precedes the auxiliary verb. The topicalization of the VP in (81a) is always grammatical as shown in (82); and the movement will not involve the negation marker since it is I'-adjoined.

- (82) maai ni di saam (aa), keui m ho yi  
buy these clothes PART he not can

The "m"(not) in (81b), however, must be a constituent of VP and this can be demonstrated by the contrast between (83a) and (83b).

- (83)a. \*maai ni di saam (aa), keui ho yi m  
buy these clothes PART he can not
- b. m maai ni di saam (aa), keui ho yi  
not buy these clothes PART he can

Sentence (83a) is the result of topicalizing the VP in (81b) without moving the negation marker with it and it is ungrammatical. But the topicalization of the VP together with the



- (87)a.
- |      |   |       |   |            |   |      |           |
|------|---|-------|---|------------|---|------|-----------|
| Mary | { | m     | { | seung      | { | heui | Singapore |
|      |   | not   |   | want       |   |      |           |
|      |   | goum  |   | paa        |   |      |           |
|      |   | so    |   | fear       |   |      |           |
|      |   | taai  |   | hei mong   |   |      |           |
|      |   | too   |   | hope       |   |      |           |
|      |   | gei   |   | yun yi     |   |      |           |
|      | } | quite | } | would like |   |      |           |

- b.
- |     |   |       |   |            |   |
|-----|---|-------|---|------------|---|
| Max | { | m     | { | gou        | { |
|     |   | not   |   | tall       |   |
|     |   | goum  |   | lek        |   |
|     |   | so    |   | capable    |   |
|     |   | taai  |   | ngo        |   |
|     |   | too   |   | hungry     |   |
|     |   | gei   |   | ngok       |   |
|     | } | quite | } | unfriendly |   |

We therefore conclude that the negation marker in VP is located at the [SPEC, VP]. We can now move on to compare the extraction behaviour of the adjunct-like duration expressions with that of the postverbal "hai"(at/in/on/from) LPs when there is a VP specifier "m"(not) existing in the sentence.

Adjunct expressions like "leung go jung tau"(two hours) and "saam yat"(three days) can be topicalized if they appear in sentences like (88) where the negation marker is in the I'-adjunction position. The negation marker in this context will not trigger Relativized Minimality because it is not a specifier.

- (88)a. keui (dou) m ho yi dang leung go jung tau  
 he also not can/may wait two CL hour

"He (also) can/may not wait for two hours."

- b. leung go jung tau, keui (dou) m ho yi dang  
 two CL hour he also not can/may wait

(The presence of "dou"(also) will make the sentence more natural.)

But if the negation marker is in the [SPEC, VP] position, the topicalization of the duration expressions will result in an ungrammatical sentence whether "dou"(also) is present or not.

- (89)a. keui (dou) ho yi m dang leung go jung tau  
 he also can/may not wait two CL hour

"It is not necessary for him to wait for two hours."

- b. \*leung go jung tau, keui (dou) ho yi m dang  
 two CL hour he also can/may not wait

The ill-formedness of (89b) is predicted by the principle of Relativized Minimality since the topicalization of the duration expressions (which is an A'-movement) is blocked by a potential antecedent governor--the negation marker "m"(not) in the [SPEC, VP](for which I have given proofs above).

On the other hand, the topicalization of the postverbal "hai"(at/in/on/from) LPs in accusative sentences containing verbs like "gwaa"(hang), "lim"(paste) and "jong"(install) is legitimate whether the negation marker is in the I'-adjunction or [SPEC, VP] position.

- (90)a. Ah Wong (m) ho yi (m) gwaa waa hai cheung seung min  
 not can/may not hang picture at wall top/on

"Ah Wong is not allowed  
 It is not necessary for Ah Wong } to hang pictures on the wall."

- b. hai cheung seung min, Ah Wong (m) ho yi (m)  
 at wall top/on not can/may not  
 gwaa waa \*(hai dou)  
 hang picture there

The acceptability of (90b) suggests that the LP must be an argument receiving a referential  $\theta$ -role from the verb and thus assigned a referential index. The LP after topicalization is coindexed with the proform "hai dou"(there) and they can form a binding dependency rather than a government chain. Consequently, the principle of Relativized Minimality has no effect on the movement because it constraints head-government and antecedent-government only, but not a binding relation.

We have argued in Part 1 that sentence-initial LPs of the Locative Inversion sentences originate in the postverbal position in the D-structure. At this level, they occupy the same position and receive the same type of  $\theta$ -role as the LP in (90a) (see discussion in Part 1, Section IV). Therefore, they must also be arguments (complements), too. The legitimacy of their movement to the subject [SPEC, IP] position(see the discussion in Part 1 for the hypothesis of movement) is likewise predicted by the theory of Relativized Minimality even though an A'-specifier negation marker intervenes as in the case of (91).

- (91) (hai) cheung seung min ho yi m gwaa waa (hai dou)  
 at wall top/on can/may not hang picture there

"It is not necessary to hang pictures on the wall."

Since locative inversion is an A-movement (from an argument position to another argument position), an A'-specifier will never interfere with antecedent government in an A-chain because it is only a potential governor in an A'-chain.

## II. Further Justification for the Subjecthood of the Sentence-initial LPs in Locative Inversion Sentences

In this section, I will give further justification to the subjecthood of the LPs in Locative Inversion sentences by looking at the phenomenon of SuperRaising in Cantonese. I will first show what SuperRaising is like in Cantonese. After this preliminary set-up, I will go on to argue that sentence-initial LPs of the Locative Inversion sentences exhibit characteristics parallel to the subjects of the SuperRaising sentences discussed.

Let's observe the following paradigm.

- (92)a. hou chi [pro] waa di waa gwaa jo hai cheung seung min  
 seem EC say those picture hang ASP at wall top/on

"It seems that somebody says that those pictures are hung on the wall."

- b. di waa<sub>i</sub> hou chi [pro] waa t<sub>i</sub> gwaa jo hai  
 those picture seem EC say hang ASP at  
 cheung seung min  
 wall top/on

- c. \*hou chi di waa<sub>i</sub> waa t<sub>i</sub> gwaa jo hai  
 seem those picture say hang ASP at  
 cheung seung min  
 wall top/on

- (93)a. hou chi [pro] waa gaa che bei yan tau jo  
 seem EC say CL car PM people steal ASP

"It seems that somebody says that the car has been stolen."

- b. gaa che<sub>i</sub> hou chi [pro] waa t<sub>i</sub> bei yan tau jo  
 CL car seem EC say PM people steal ASP
- c. \*hou chi gaa che<sub>i</sub> waa t<sub>i</sub> bei yan tau jo  
 seem CL car say PM people steal ASP

As "hou chi"(seem) is assumed to be a raising predicate,<sup>10</sup> we can hypothesize that the subjects of the embedded clause in (92a) and (93a) have been raised to the sentence-initial position forming (92b) and (93b). As regards (92c), its ungrammaticality is obvious. The word "waa"(say) requires an agentive external argument, whereas "di waa"(those pictures) is a theme. ("Di waa"(those pictures) occurs underlyingly in the object position since "gwaa"(hang) in this case is an unaccusative verb--see Part 1, section IV for discussion.) From (93b), we can also infer that the subject of a passive subordinate clause can also be SuperRaised. Again, (93c) is ill-formed since "gaa che"(the car) bears a patient role and cannot serve as the agentive external argument of the verb "waa"(say).

The sentence-initial NPs in the SuperRaising sentences (92b) and (93b) are definitely subjects rather than topics because sentence adjuncts like "tsan maa faan"(very troublesome) and "hou m hou choi"(unfortunately), which we have used to distinguish subjects from topics in Part 1, can be placed immediately before them. (But topics behave otherwise.) (94a) and (94b) illustrate this point.

- (94)a.    tsan maa faan      di      waa<sub>i</sub>      hou chi    [pro]    waa    t<sub>i</sub>    gwaa  
              very troublesome    those    picture    seem      EC    say      hang  
              jo                        hai      cheung    seung min  
              ASP                        at      wall      top/on

"It is troublesome that it seems that somebody says that those pictures are hung on the wall."

- b.    hou m hou choi      gaa      che<sub>i</sub>      hou chi    [pro]    waa    t<sub>i</sub>  
              unfortunately    CL      car      seem      EC    say  
              bei                        yan      tau      jo  
              PM                        people    steal    ASP

"Unfortunately, it seems that somebody says that the car has been stolen."

The sentence-initial LPs of Locative Inversion sentences behave exactly the same as those subjects in (92a) and (93a) with respect to SuperRaising. Sentences in (95), which contain sentence-initial LPs, have the same pattern as those in (92) and (93).

- (95)a.    hou chi    [pro]    waa    (hai)    cheung    seung min  
              seem    EC    say    at      wall      top/on  
              gwaa    jo    fuk    waa    (hai dou)  
              hang    ASP    CL    picture    there

"It seems that somebody says that there is a picture hanging on the wall."

- b.     (hai)     cheung   seung min<sub>i</sub>     hou chi     [pro]     waa   t<sub>i</sub>  
          at       wall     top/on     seem       EC       say  
          gwaa     jo       fuk       waa       (hai dou)  
          hang     ASP     CL       picture    there
- c.     \*hou chi   (hai)     cheung   seung min<sub>i</sub>   waa     t<sub>i</sub>  
          seem     at       wall     top/on     say  
          gwaa     jo       fuk       waa       (hai dou)  
          hang     ASP     CL       picture    there

Furthermore, the sentence adjunct "tsan maa faan"(very troublesome) can likewise be placed immediately before the LP in (95b) and this evidence supports the conclusion that the LP is a subject, not a topic.

- (96)   tsan maa faan   (hai)   cheung   seung min<sub>i</sub>   hou chi   [pro]   waa   t<sub>i</sub>  
          very troublesome   at     wall     top/on     seem     EC     say  
          gwaa               jo     fuk     waa       (hai dou)  
          hang               ASP   CL     picture    there

When the "pro" in each of the sentences (92b), (93b) and (95b) is replaced by a lexical subject as shown in (97), the grammatical function of the initial phrases in all these (b) sentences changes as well. The sentence-initial phrases in (97a) and (97c) ("di waa"(those pictures) and "hai cheung seung min"(on the wall)) can only be interpreted as topics as witnessed from the fact that the sentence adjunct "tsan maa faan"(very troublesome) cannot be put immediately before them. Furthermore, (97b) can hardly be interpreted because it is simply ungrammatical.

- (97)a.   (\*tsan maa faan)   ?di     waa<sub>i</sub>     hou chi   Ah Chan   waa   t<sub>i</sub>   gwaa  
          very troublesome   those   picture   seem               say       hang  
          jo                 hai     cheung   seung min  
          ASP               at     wall     top/on
- b.     \*gaa   che<sub>i</sub>   hou chi   Ah Chan   waa   t<sub>i</sub>   bei   yan   tau   jo  
          CL   car   seem               say     PM   people   steal   ASP
- c.     (\*tsan maa faan)   ?(hai)   cheung   seung min<sub>i</sub>   hou chi   Ah Chan   waa  
          very troublesome   at     wall     top/on     seem               say  
          t<sub>i</sub>                 gwaa   jo     fuk       waa       (hai dou)  
                          hang   ASP   CL     picture    there

To summarize, three points of interests stand out from the analysis in this section.



(i) The sentence-initial LPs of the Locative Inversion sentences(1-10) are undoubtedly subjects and they can participate in SuperRaising, as shown in (95b).

(ii) In Cantonese SuperRaising(an A-movement), extracting a subject across another lexical subject, which is an A-specifier and which is a potential antecedent governor, is prohibited. Such restriction is clearly shown in (97). The reason why (97a) and (97c) are felicitous is that the sentence-initial phrases ("di waa"(those pictures) and "hai cheung seung min"(on the wall)) are topics. The movement process cannot be interpreted as SuperRaising--an A movement, and it can only be topicalization--an A'-movement. The lexical subject "Ah Wong" or "Ah Chan", which is an A-specifier, will not intervene in an A'-movement. Hence, the principle of Relativized Minimality makes the right prediction in these cases.

(iii) However, the fact that SuperRaising is allowed in (92b), (93b) and (95b) suggests that "pro" in Chinese, although an A-specifier, will not intervene in an A-chain and block the movement, unlike what is predicted by the principle of Relativized Minimality.

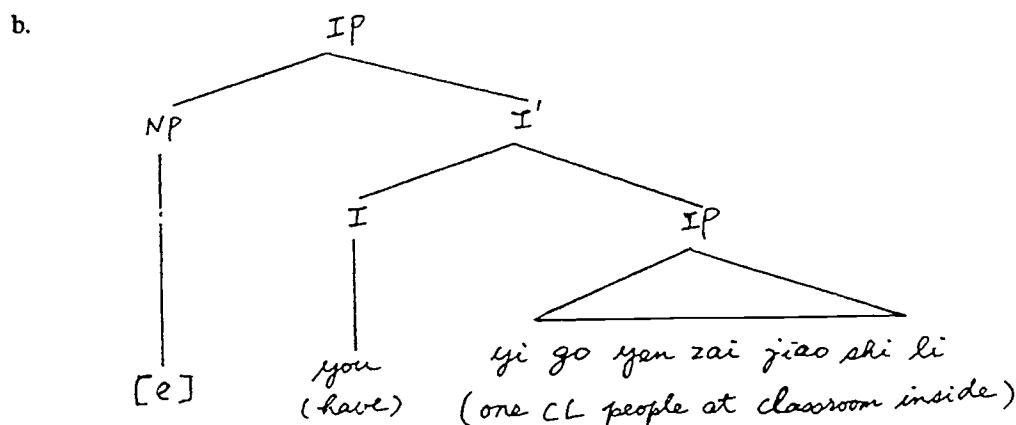
### III. Extension of the Locative Inversion Analysis to Existential "Yau"(have) Sentences

The proposal that the sentence-initial LPs of the Locative Inversion sentences in (1-10) results from a movement operation can be carried over to the existential "yau"(have) sentences beginning with a LP. The locative inversion of the "yau"(have) sentences, however, is not limited to extracting LPs from the postverbal complement position. Preverbal adjunct LPs can also be moved to the sentence-initial (subject) position. In both cases, the pro-form "hai dou"(there) may coexist with the LPs, thus bearing witness to the operation of the movement process. The subjecthood of the sentence-initial LPs can be ascertained by the fact that they pass all the tests for subjects which have been employed in the earlier analysis. The movement analysis in the existential "yau"(have) sentences is comparable to Freeze's(1991) crosslinguistic analysis of "have" structures as locative sentences. But it differs widely from Huang's(1989) analysis of the existential "you"(have) sentences in Mandarin as far as the sentence-initial LPs are concerned.

Huang(1989) proposes that in Mandarin, an existential "you"(have) sentence like (98a) can be analyzed with a structure shown in (98b).

(98)a.   you    yi    go    yan    zai    jiao shi    li  
          have one CL people at classroom inside

"There is a man inside the classroom."



The crucial assumption in this case is that "you"(have) in (98) is an auxiliary verb in contrast to the full-verb "you"(have) in the possessive sentences. If the subject of the lower IP is indefinite, like "yi go yan"(a person), it will not be raised to the subject position of the matrix IP which is left empty in the surface form. However, if the subject of the lower IP is definite, it will be obligatorily raised to the empty subject position. But according to Huang(1989), it is not possible for a definite NP to follow immediately the existential "you"(have). So raising will not occur in the existential "you"(have) sentences such as (98). It can only happen in sentences having "you" as a perfective auxiliary verb like (99).

- (99) Zhangsan<sub>i</sub>    mei    you    t<sub>i</sub>    kan jian    Lisi  
                   not    have       see

"Zhangsan did not/has not see/seen Lisi."

One of Huang's(1989) major arguments for treating existential "you"(have) in Mandarin as an auxiliary verb is that, similar to other canonical auxiliary verbs like "hui"(will) and "ying gai"(should), existential "you"(have) cannot take an aspect marker. This is also true for the existential "yau"(have) in Cantonese as seen from (100).

- (100)    yau    { \*jo }    fuk    waa    gwaa    jo    hai    cheung    seung min  
           have    { ASP }    CL    picture    hang    ASP    at    wall    top/on  
                   { \*gwo }  
                   ASP

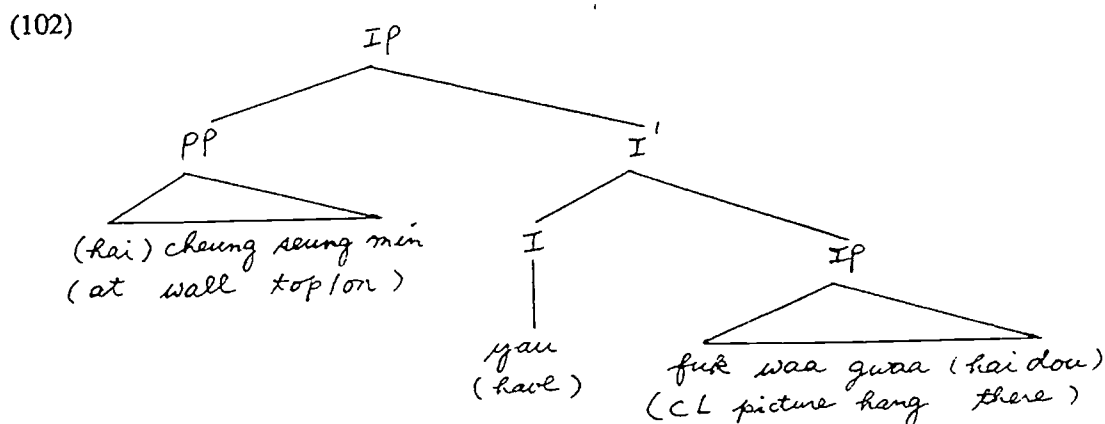
"There is a picture hanging on the wall."

So I also assume that (100) has an underlying structure similar to (98b).

This kind of sentences in Cantonese also allows LPs to appear in the sentence-initial position. (101) is a counterpart of (100) and they both have the same truth-value in meaning.

- (101) (hai) cheung seung min yau fuk waa gwaa \*(hai dou)  
 at wall top/on have CL picture hang there

The noticeable thing in (101) is that the proform "hai dou"(there) may also co-exist with the sentence-initial LP(see discussion in section IV (B),Part 1). Therefore, we can once more hypothesize that the LP in (101) comes from the postverbal complement position via movement. The structural representation in (102) illustrates the movement process.



There are in fact several arguments in favour of this hypothesis. First, Huang(1989) argues that existential "you"(have) in Mandarin subcategorizes for an internal argument which appears as a complement in the D-structure. I assume that this proposal can be carried over to the Cantonese case. This semantic classification of "yau"(have) makes it equivalent to unaccusative verbs like "fan"(lie), "kei"(stand) and "cho"(sit) which allow locative inversion as shown in (1-10). (Unaccusative verbs also subcategorize for internal arguments only.) The movement hypothesis for existential sentences like (102) is congruent to what this paper has been proposing all along.

Second, the sentence-initial LP in (101) can pass all the subjecthood tests that have been invoked in Part 1. For ease of presentation, we only show the "sentence-adjunct-placement" and the "subject-raising" tests in the following.

- (103)a. hou ho neng (hai) cheung seung min yau fuk waa  
 probably at wall top/on have CL picture  
 gua \*(hai dou)  
 hang there

"Probably, there is a picture hanging on the wall."

- b. (hai) cheung seung min hou chi yau fuk waa  
 at wall top/on seem have CL picture  
 gwaa \*(hai dou)  
 hang there

"It seems that there is a picture hanging on the wall."

(101) can also participate in SuperRaising.

- (104) (hai) cheung seung min hou chi [pro] waa t  
 at wall top/on seem EC say  
 yau fuk waa gwaa \*(hai dou)  
 have CL picture hang there

"It seems that somebody says that there is a picture hanging on the wall."

(Notice that "hai dou"(there) in (103) and (104) are obligatory.)

So the locative inversion analysis can capture the similarities between the locative existential sentences (as in (101)) and the typical Locative Inversion sentences (as in (1-10)).

There are two more extensions of the movement analysis that I should mention. One is the possibility of moving an adjunct LP to the subject [SPEC, IP] position in an existential sentence. (105a) has a counterpart (105b).

- (105)a. yau yan (hai uk leui min) tiu mou  
 have people at house inside dance

"There are people dancing inside the house."

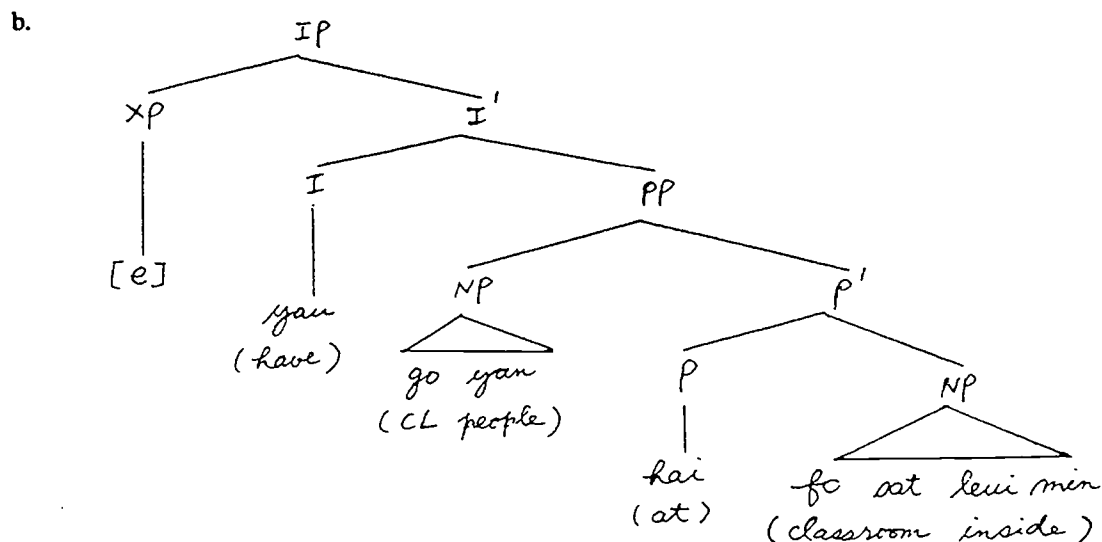
- b. (hai) uk leui min yau yan (hai dou) tiu mou  
 at house inside have people there dance

The LP in (105a) is an adjunct basically because of its optional nature. But it can still be moved to the sentence-initial (subject) position as what appears in (105b). The initial LP in this case is a subject since it can pass all the subjecthood tests mentioned before. Thus I conclude that locative inversion in Cantonese can also be an A'-movement(moving an XP from an A' position to an A position).

The other extension that deserves attention is the possibility of moving a PP predicate in locative inversion. Sentence (106a) has an underlying structure like (106b).

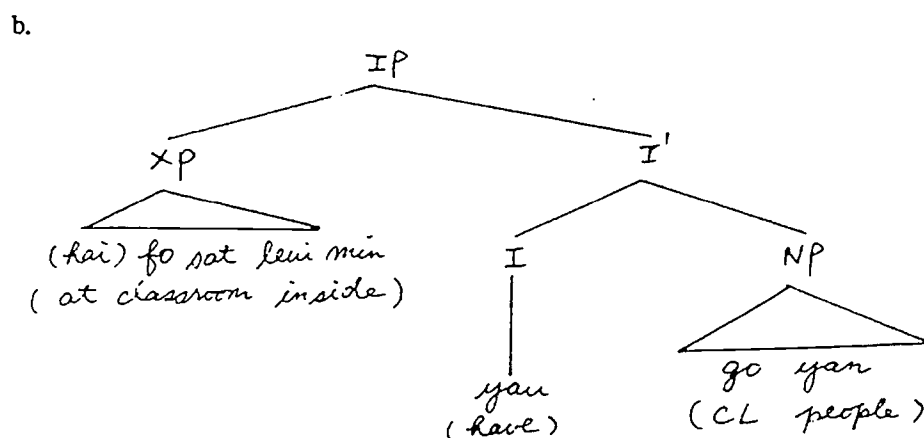
- (106)a.    yau    go    yan    hai    fo sat    leui min  
              have   CL   people   at   classroom   inside

"There is a man inside the classroom."



The whole PP can be raised to the subject position becoming (107).

- (107)a.    (hai)    fo sat    leui min    yau    go    yan    (hai dou)  
              at    classroom   inside   have   CL   man   there



Again, the sentence-initial LP in (107) can pass all the subjecthood tests mentioned in Part 1.

This analysis is similar to what Freeze(1991) proposes for treating crosslinguistic "have"-structures like (108) as locative sentences.

## (108) a. English

I have a needle (on me). (Freeze, p.53)

## b. Russian

u menja est sestra  
at I-GEN COP sister-NOM  
[+Loc]

"I have a sister." (Freeze's (55b), p.46)

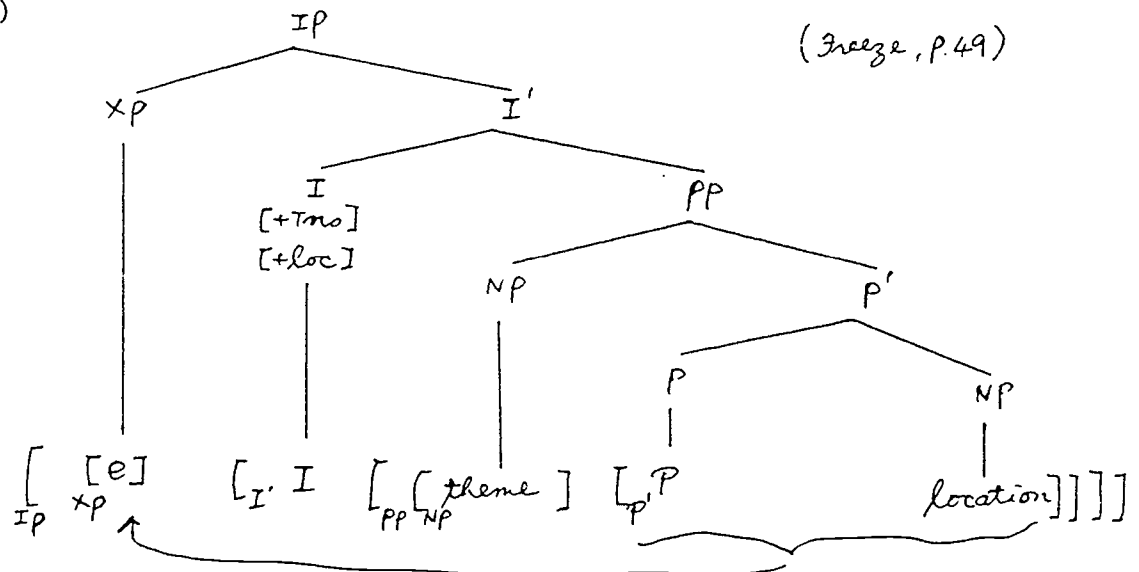
## c. Finnish

poyda-lla on kynä  
table-on COP pencil  
[+Loc]

"There is a pencil on the table." (Freeze's (56a), p.46)

The "have" subjects in (108) are all regarded by Freeze as locations and the sentences all have a similar underlying representation like (109) which is comparable to (106b).

(109)



In this case, the locative argument "P" is moved to the subject position in S-structure, leaving its specifier, i.e. NP, in situ.

Although the proposal here fits in with Freeze's crosslinguistic analysis, it differs widely from what Huang(1989) proposes for similar sentences in Mandarin.

Huang(1989) suggests that Mandarin sentences like (110) should belong to the possessive type instead of the existential type.

(110)	jiao shi	li	you	(zhou)	yì	ban	shu	ma?
	classroom	inside	have	ASP	one	CL	book	PART
					zhe			
					this			

"Is there } a } book inside the classroom?"  
                   \*this }

Even though this suggestion seems odd because of the possessive relation(that in (110), "the classroom owns a book"), he nevertheless supports his argument by saying that the "you"(have) in this case is a full-verb(rather than an auxiliary verb as in the existential sentences) because it can take an aspect marker. By asserting that (110) belongs to the possessive type, he can also explain why a definite NP("zhe yi ban shu"(this book)) can appear after "you"(have), which is prohibited in existential sentences. Huang(1987,1989) also insists that sentence-initial LPs like the one in (110) are base-generated NP. However, the analysis in this section suggests a very different treatment of the subject LPs of the "you"(have) sentences in Cantonese. I hypothesize that they are not base-generated but they come from either the postverbal complement position or the adjunct position. This movement analysis is only a subset of the general process Locative Inversion that operates extensively in Cantonese.

#### IV. Summary and Conclusion

The first part of the paper has showed that Locative Inversion sentences like (1-10) are derived by a movement process. The LPs of these sentences are claimed to originate in the postverbal complement position in the D-structure, but move to the subject position in S-structure. I begin the discussion by adducing several pieces of evidence to support the subjecthood of the LPs in the surface form. First, they exhibit at least three major characteristics that differentiate them from ordinary topics. Second, they assume a position in the surface structure that precedes the auxiliary verbs and sentence adverbials. Third, they can undergo subject-to-subject raising. The next task I do is to justify the proposal that the LPs in (1-10) move from the postverbal complement position to the subject position. I first show that the verbs in the Locative Inversion sentences in (1-10) are unaccusative in nature. Second, I demonstrate the relative distribution and cooccurrence restrictions between the sentence-initial LPs and their coreferent proform "hai dou"(there). Their distribution properties justify the claim that the sentence-initial LPs are a result of the movement operation and the proform "hai dou"(there), which is optional, is some kind of residue coreferent to the LPs. The argument that the LPs appear as postverbal complements in the D-structure is reinforced by the fact that when they

appear in the postverbal position in the surface form, they are obligatory and receive a locative  $\theta$ -role from the verb. The third task I attempt is to show that some Locative Inversion sentences like (2,7,& 8), which contain verbs like "gwaa"(hang), "lim" (paste) and "se"(write), can acquire an accusative reading in other contexts. This is particularly obvious if these sentences appear as part of a discourse and the agents are omitted to avoid repetition since they are mentioned previously. In this case, these accusative sentences in D-structure will contain a "pro" under the [SPEC, IP]. The fourth task I tackle is to contrast the  $\theta$ -role assignment and Case-assignment of Cantonese with those of Mandarin. I also justify that PPs in Cantonese, such as sentence-initial LPs, can receive Case.

The second part of the paper is designed to tackle three tasks. At the outset, I strengthen the proposal that the sentence-initial LPs in (1) and (2) are also arguments(complements) when they are in D-structure. The strategy I use is to first compare the extraction behaviour between the postverbal LPs in accusative sentences(like(56)) and the adjunct-like duration expressions. From their difference in extraction behaviour and based on Rizzi's theory of Relativized Minimality, I can reaffirm that postverbal LPs must be arguments(complements). Since I have already argued that these LPs of the accusative sentences are the same kind of entity as those LPs of the Locative Inversion sentences in D-structure, the latter must also be arguments too. The next task I deal with is to reinforce the subjecthood of the sentence-initial LPs by claiming that they also participate in SuperRaising. One significant observation is that the raising of the LPs across another lexical subject is blocked, but the raising of the LPs across a "pro" is allowed. The third task I undertake is to extend the movement analysis in Part 1 to the type of existential "yau"(have) sentences in Cantonese that begin with a LP. These sentences are also claimed to have undergone locative inversion and the sentence-initial LPs may come from the postverbal complement position or the preverbal adjunct position.

As a whole, the investigation in this paper has come up with the following generalizations:

(i) The Locative Inversion phenomenon in Cantonese is widespread and movement is involved to front the LPs to the subject(sentence-initial) position. In the majority of cases, the LPs are extracted from the postverbal complement position. But it is also possible to front a preverbal adjunct LP in an existential "yau"(have) sentence.

(ii) Since the LPs are PPs and they are moved into the [SPEC, IP] position in locative inversion, this suggests that Cantonese PPs can be assigned Case in this particular context.



(iii) Because of the proposal of movement analysis in Locative Inversion, I have argued that Cantonese word order is SVO at both D- and S-structure.

(iv) In examining the SuperRaising characteristics of the sentence-initial LPs in Locative Inversion sentences, I come to the conclusion that "pro" (an A-specifier) in Cantonese will not intervene in an A-chain and block the related movement, unlike what is predicted by the theory of Relativized Minimality.

For further research, it will be interesting to look into the relation between locative inversion and syntactic processes like passivization and relativization. The study in this paper also shows that it may be a fruitful task to further investigate the issue of treating the negation marker "m" (not) in Cantonese as a spec of VP. In analyzing the SuperRaising phenomenon of the Locative Inversion sentences, I find that in Cantonese, it is possible to extract an element across "pro" (an A-specifier at the [SPEC, IP]) in an A-movement. This looks like a counterexample to the theory of Relativized Minimality. Further research into other kinds of A-movement, like passivization, may help to reconfirm this preliminary generalization.

## NOTES

\*I would like to thank Professor S.Y. Kuroda for reminding me to work on my native language Cantonese, as well as his guidance and challenges. His suggestions directly inspired some of the ideas in this paper. I am grateful to Professor Matthew Chen for his careful reading of an earlier draft of this paper and his critical comments. I also thank Dr. Robert Kluender for agreeing to be a reader of this paper and his comments. I appreciate Raul Aranovich's enthusiasm in discussing the theory of Relativized Minimality with me. I am indebted to the anonymous reviewer for pointing out the problem in one of my arguments in the earlier draft. I am also indebted to my wife, Anita Hung, and my friends at San Diego for testing the data in this paper.

1. By "logical subject", I refer to the thematic argument of a verb that can be a surface subject in the unmarked case. The following sentence

yau go yan fan hai chong seung min  
have CL people lie at bed top/on  
"There is a man lying on the bed."

is considered as an unmarked case, where the "logical subject" is "go yan"(a man). Example (1) on page 1 is the marked counterpart of the sentence above and the "logical subject" stays in the postverbal position after locative inversion.

2. The transliteration of the Cantonese words(characters) in this paper is based on the Yale system, but tones are not shown. The following is a list of the transliteration symbols and their IPA equivalents(in brackets).

b(p) d(t) g(k) p(p') t(t') k(k') l(l) m(m) n(n) ng(n) f(f)  
 h(h) s(s) j(ts) ch(ts') gw(kw) kw(k'w) w(w) y(j)  
 a(a) ai(ai) au(au) aa(a:) aai(a:i) aau(a:u) e(ɛ) ei(ei) eu(œ)  
 i(i) iu(iu) o(ɔ:) ou(ou) oi(ɔi) u(u) ui(ui) eui(œy) yu(y)

### 3. Abbreviations

ASP=aspect marker CL=classifier EC=empty category DEM=demonstrative  
 determiner  
 MOD=modifier PART=particle PM=passive marker POSS=possessive  
 marker

4. I assume that the verb "lei mai"(hide) has two readings, both unaccusative and unergative. In sentence (6), it is an unaccusative verb and it takes an argument that bears the theme/patient role and which occupies the object position in the D-structure. On the other hand, if it occurs as unergative, then it will take an argument that bears an agent role and occupies the subject position in the D- and S-structure.

5. Thanks go to Phil Lesourd for suggesting to me the use of the term "sentence adjuncts".

6. I am indebted to Prof. S.Y. Kuroda for this idea.

7. Throughout this paper, I will assume that "hou chi"(likely/seem) and "hou ho neng"(possibly) are raising predicates in Cantonese. This assumption is based on the fact that these expressions behave similarly to their Mandarin counterparts which are affirmed to be raising predicates by Hou(1977), Li(1990) and Zhou(1990).

8. In the analysis that follows, I will show that the NP "hou do sai lou jai"(many children) occurs in the object position in the D-structure. (39a) is a result of moving the NP to the subject position in the S-structure. In (39b), the LP is moved to the surface subject position instead. That is why I call the NP in this case a potential subject. For the idea of "logical subject", please see note (1) above.

9. The assumption that ergative verbs in Mandarin Chinese can assign Case

to their NP complements deviates materially from Burzio's idea of ergative verbs which are claimed to be unable to assign Case. For evidence supporting the Chinese assumption, the reader is referred to Li(1990) and Zhou(1990).

10. See note (7) above.

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